

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Cancelled)
2. (Previously presented) A method for optimizing selection of advertisements for transmission to a customer, comprising:
  - creating at least one customer profile for a possible recipient of advertisement data, said customer profile reflecting the recipient's interests in predetermined characteristics of the advertisement data;
  - creating an ad-attribute profile for each of said advertisements, said ad-attribute profile comprising a measure of uncertainty regarding said recipient's interest in each of said advertisements, wherein said measure of uncertainty is inversely related to a number of times said advertisement has been served;
  - computing an uncertainty-adjusted probability that said recipient will select each of said advertisements;
  - computing a value associated with said recipient choosing each of said advertisements; and
  - selecting the advertisement corresponding to a highest uncertainty-adjusted probability and a highest value.
3. (Previously presented) The method of claim 2, further comprising the step of serving the highest value advertisement to the recipient.

4. (Previously presented) The method of claim 2, wherein said ad-attribute profile further comprises a measure of a degree of content of said predetermined characteristics in said advertisements.

5. (Previously presented) The method of claim 2, wherein said at least one customer profile comprises one attribute for each of said predetermined characteristics.

6. (Cancelled)

7. (Previously presented) The method of claim 2, wherein said ad-attribute profile comprises one attribute for each of said predetermined characteristics.

8. (Previously presented) The method of claim 7, wherein said step of computing said value further comprises the following steps for each advertisement:

- (a) multiplying an attribute of said customer profile by a corresponding attribute of said ad-attribute profile to yield a product;
- (b) accumulating the product; and
- (c) repeating steps (a) and (b) for every attribute of said customer profile.

9. (Previously presented) The method of claim 8, wherein said step of computing said value further comprises the step of computing a value based on a predicted sequence of Web sites being accessed.

10. (Previously presented) The method of claim 9, wherein a value for an advertisement is lowered if a particular Web site is predicted to be shown in the future.

11. (Previously presented) The method of claim 2, wherein said step of computing said value further comprises:

adding a revenue amount associated with each of said advertisements to said value; and

subtracting a cost associated with each of said advertisements from said value.

12. (Previously presented) The method of claim 2, wherein the computed value equals a square root of the number of times said advertisement has been served.

13. (Previously presented) The method of claim 2, wherein said computing step further comprises computing a value, said value based on a predicted number of visitors to a predetermined number of Web sites.

14. (Previously presented) The method of claim 2, wherein said selecting step comprises:

selecting a predetermined number of advertisements corresponding to a highest value; and

storing an identifier for each advertisement in an ad queue.

15. (Previously presented) The method of claim 14, wherein an advertisement is served to a user from said ad queue.

16. (Previously presented) A method for optimizing selection of advertisements for customers, comprising:

creating a customer profile for a customer, the customer profile including customer attributes;

creating an advertisement profile for each of a plurality of advertisements, each advertisement profile including an expected revenue based on potential placement of the corresponding advertisement and a measure of uncertainty that is inversely proportional to a number of times said advertisement has been served;

for each advertisement, using the customer profile to determine an estimated probability that the customer will respond to the advertisement; and

selecting which of the plurality of advertisements to present to the customer based on an estimated value, which includes the probability of the customer taking a specified action, the expected revenue associated with such action, and the measure of uncertainty.

17. (Previously presented) The method of claim 16, wherein the selecting further includes:

calculating for each advertisement a projected value based on the estimated probability and the expected revenue; and

selecting the advertisement with the highest projected value.

18. (Previously presented) The method of claim 16, further comprising:

presenting the selected advertisement to the customer; and

collecting data regarding the customer's response to the advertisement.

19. (Previously presented) The method of claim 18, further comprising:  
updating the customer profile based on the collected data.

20. (Previously presented) The method of claim 16, wherein the customer  
attributes include long term attributes and short term attributes.

21-30. (Cancelled)

31. (New) A computer-implemented method for optimizing placement of  
Internet advertisements, comprising:

establishing a customer profile for a customer, the customer profile including  
category attributes related to a category of advertisements of interest to the customer  
and product attributes related to a product of interest to the customer;

receiving an Internet advertisement;

computing a click probability estimate representing a likelihood that the customer  
will select the Internet advertisement according to the category attributes and the  
product attributes;

determining a strength of the click probability estimate based on a number of  
times the Internet advertisement has been previously presented;

presenting the Internet advertisement to the customer based on the click  
probability estimate and the strength of the click probability estimate;

receiving a response to the Internet advertisement from the customer;

adjusting the click probability estimate for the Internet advertisement based on the received response to the Internet advertisement; and

increasing the strength of the click probability estimate based on the presentation of the Internet advertisement.

32. (New) The computer-implemented method of claim 31, further comprising:

adjusting the customer profile based on types of advertisements previously responded to by the customer.

33. (New) The computer-implemented method of claim 31, further comprising:

adjusting the customer profile based on Internet sites visited by the customer.

34. (New) The computer-implemented method of claim 31, wherein the strength of the click probability estimate represents an uncertainty of the click probability estimate.

35. (New) The computer-implemented method of claim 34, further comprising:

increasing the strength of the click probability estimate by reducing the uncertainty of the click probability estimate.

36. (New) The computer-implemented method of claim 31, wherein the response is a click selecting the Internet advertisement.

37. (New) The computer-implemented method of claim 31, wherein the response is a request for more information.

38. (New) The computer-implemented method of claim 31, wherein the response is a purchase of an item.